

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

CONSOLIDATED UNDER
CASE NO. 05-10155 PBS

YISEL DEAN, Independent Administratrix of the Estate of
STEVEN DEAN, deceased, and on behalf of all statutory
beneficiaries,
Plaintiff,

V.

DOCKET NO: 05cv10155 PBS

RAYTHEON COMPANY, a Delaware corporation,
RAYTHEON AIRCRAFT COMPANY, a Kansas Corporation,
RAYTHEON AIRCRAFT CREDIT CORPORATION, a
Kansas Corporation, COLGAN AIR, INC., a Virginia
Corporation d/b/a US Air
Express,
Defendants.

LISA A. WEILER, Administratrix of the Estate of SCOTT A. KNABE, deceased, and on behalf of all statutory beneficiaries,
Plaintiff,

V.

DOCKET NO: 05cv10364 PBS

RAYTHEON COMPANY, a Delaware corporation,
RAYTHEON AIRCRAFT COMPANY, a Kansas Corporation,
RAYTHEON AIRCRAFT CREDIT CORPORATION, a
Kansas Corporation, COLGAN AIR, INC., a Virginia
Corporation d/b/a US Air Express,
Defendants.

DEFENDANTS' MOTION *IN LIMINE* TO PRECLUDE TESTIMONY BY MICHAEL CONWAY ON ISSUES RELATED TO AIRCRAFT MAINTENANCE.

The defendants hereby respectfully move for an order *in limine* precluding plaintiffs' expert Michael Conway from testifying as to aircraft maintenance issues.

In the course of litigation, plaintiffs designated Michael Conway as an expert piloting witness. Conway is an airline pilot with Continental Airlines. (Conway Deposition, p.8: 19-21, attached as Exhibit 1) He admitted in his deposition that he is not a mechanic, and that his testimony would focus on "pilot issues." (Exhibit 1: p. 20: 19-24) When asked whether or not he was familiar with regulations about mechanics logging requirements, he did not know and reiterated that he was not a mechanic and that they have their own procedures. (Exhibit 1: p. 42: 3-12). He again reminded counsel that he was not a mechanic during discussions of how mechanics inspected airplanes for their Airworthiness Release. (Exhibit 1: p. 44: 6-12). On a fourth occasion, he re-stated that he was not a mechanic, and, moreover, admitted he did not know the requirements related to signing Airworthiness Releases. (Exhibit 1: p. 136: 17-25; p. 138: 16-25).

Nevertheless, Conway's deposition is rife with references to the purported role of the Raytheon's maintenance procedures, and particularly, the 1900D AMM, in the accident at issue in this litigation. He opines repeatedly that the crash was "due to Raytheon," and that the "Raytheon diagram" is the cause of the crash. (Exhibit 1: p. 125: 4; 178:3; 183-184). In his effort to research maintenance issues, Conway sought a copy of Chapter 27-00-00 following the drafting of his report in order to "get more information on the flight control system" – but noted again that "like I said, I'm not a mechanic so it's really -- doesn't have anything to do with me." (Exhibit 1: p. 177: 13-15) However, he further opined that the elevator trim was "mis-rigged due to the Raytheon manual." (Exhibit 1: p.227: 17-21).

Federal Rule of Evidence 702¹ imposes an important “gatekeeper” function on judges by requiring them to ensure that four requirements are met before admitting expert testimony. The first step in any such analysis is to determine whether the expert is qualified to testify by knowledge, skill, experience, training, or education. See Fed.R.Evid. 702. Here, it is clear that Mr. Conway’s testimony as to maintenance issues fails to meet the first step of the Rule 702 analysis – he does not have the “knowledge, skill, experience, training or education” of a mechanic sufficient to bring before the trier of fact reliable evidence on issues dealing with aircraft maintenance.

WHEREFORE, the defendants respectfully request that this Court enter an order *in limine* precluding expert Michael Conway from testifying as to aircraft maintenance issues

RAYTHEON DEFENDANTS,
By Counsel,

/s/ Peter C. Knight

I hereby certify that this document(s) filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non registered participants on January 26, 2007.

/s/ Peter C. Knight

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-AND-

¹ Rule 702 states:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, **a witness qualified as an expert by knowledge, skill, experience, training, or education**, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. *Emphasis added.*

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EXHIBIT 1

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1 UNITED STATES DISTRICT COURT
2 FOR THE DISTRICT OF MASSACHUSETTS
3 YISEL DEAN, et al.,)
Plaintiff,) CONSOLIDATED UNDER
4 vs.) CASE NO. 05-10155 PBS
5 RAYTHEON COMPANY, a Delaware corporation,)
RAYTHEON AIRCRAFT HOLDINGS, INC., a)
6 Delaware Corporation, RAYTHEON AIRCRAFT)
COMPANY, a Kansas Corporation, RAYTHEON)
7 AIRCRAFT CREDIT CORPORATION, a Kansas)
Corporation,)
8 Defendants.)
9
10 LISA A. WEILER, et al.,)
Plaintiff,)
11 vs.) Case No. CV 10364 PBS
12 RAYTHEON COMPANY, a Delaware corporation,)
RAYTHEON AIRCRAFT HOLDINGS, INC. a)
13 Delaware Corporation, RAYTHEON AIRCRAFT)
COMPANY, a Kansas Corporation, RAYTHEON)
14 AIRCRAFT CREDIT CORPORATION, a Kansas)
Corporation,)
15 Defendants.)

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ORAL DEPOSITION OF
MICHAEL A. CONWAY
OCTOBER 11, 2006

ORAL DEPOSITION OF MICHAEL A. CONWAY produced
as a witness at the instance of the Defendant, and duly
sworn, was taken in the above-styled and numbered cause
on the 11th day of October, 2006, from 9:13 a.m. to
5:05 p.m., before Mary Abbott Burkes, CSR in and for
the State of Texas, reported by machine shorthand, at
the offices of Andrews Kurth, LLP, 600 Travis, Suite
4200, Houston, Texas 77002, pursuant to Notice and the
Federal Rules of Civil Procedure and the provisions
stated on the record or attached hereto.

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24 Q. Okay. We'll go through those in a little bit
25 in a minute. First, in looking at your report, I
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1 notice that you've not served as an expert witness
2 before, you've not been deposed as an expert before,
3 right?

4 A. That is correct.

5 Q. Have you ever been deposed at all before?

6 A. No, sir.

7 Q. Okay. So this is a new experience for you?

8 A. Yeah.

9 Q. Ordinarily with experts I just launch in; but
10 since this is a new experience, let's talk a little bit
11 about the format and the ground rules of this.

12 A. Okay.

13 Q. I would expect you've had an opportunity to
14 talk to counsel about generally the process and how it
15 works, but obviously this is a question-and-answer
16 format. You're under oath. So you need to tell the
17 truth just as if you were at trial. But I'll put a
18 question to you, and you provide me with an answer.
19 Everything we say is being taken down. So we need to
20 be really careful to be clear and audible in our
21 answers. Nods and shakes of the heads do not take down
22 well, nor do "uh-huh's" or "huh-uh's" which become easy
23 to fall into in conversation. So let's do what we can
24 to avoid that. Is that fair?

25 A. That's fair.

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1 Q. All right. By the same token, let's do what
2 we can to avoid speaking over one another; and that is
3 a problem I have, too. So if we start in on that, we
4 might get admonished by the court reporter; but let's
5 do what we can to avoid that as well. Is that fair?

6 A. That's fair.

7 Q. If I ask you a question you don't understand
8 for whatever reason, don't answer it. Tell me you
9 don't understand my question and I will do my best to
10 rephrase it so we're communicating better.

11 A. Okay, sir.

12 Q. All right. If by the same token you do answer
13 a question I've put to you, I will assume you've
14 understood it. Is that fair?

15 A. That's fair.

16 Q. First of all, give us your name and address.

17 A. Michael A. Conway. I live at 5619 Sycamore
18 Creek, Kingwood, Texas 77345.

19 Q. And what do you do for a living?

20 A. I'm an airline pilot with Continental
21 Airlines.

22 Q. And you've been doing that for a few years
23 now?

24 A. Yes, I have. Between Continental Airlines and
25 Continental Express airlines, just over ten years'

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1 service.

2 Q. Let's talk just a little bit about your
3 history in aviation. Looking at page 9 of your
4 report -- and let's just mark it so we have a frame of
5 reference.

6 (Deposition Exhibit No. 110 was marked.)

7 Q. (By Mr. Jones) Here, let me give you this one
8 because this is the one I marked. That one is for your

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1 Q. So you've not ever flown a Beech product other
2 than the 1900?

3 A. I actually did get to go up in a customer's --
4 it was -- I'm trying to think of -- it was a Bonanza.
5 So --

6 Q. Were you able to fly it, or were you just
7 along for the ride?

8 A. He let me do the landing.

9 Q. Did he?

10 A. Yeah.

11 Q. How did you get into the expert witness
12 business?

13 A. I had a friend up in Ohio who has -- does
14 expert witness work and he heard that Motley Rice was
15 looking for an expert witness in the Beech 1900 and he
16 wasn't -- had no experience in the 1900. So he
17 referred me and Motley Rice contacted me and that's
18 how we got --

19 Q. And who is that? What's his name?

20 A. Oh, actually my initial contact was with
21 LeAnn Lester from Motley Rice.

22 Q. No, I mean who's the guy in Ohio who does
23 expert work that referred them to you?

24 A. Oh, Burt Roe.

25 Q. Roe?

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1 A. Yes.

2 Q. Had you let him know at some point before that
3 you were interested in doing that kind of work, or did
4 he just come to you?

5 A. I actually said, you know, it's interesting
6 and if he ever comes across anybody that needs my
7 experience, put my name in the hat.

8 Q. And was this your first opportunity to do this
9 kind of work?

10 A. This is my first opportunity.

11 Q. Well, what is it that you understand your role
12 to be in the case?

13 A. Oh, I believe my role in this case is to act
14 as an expert witness to give an expert opinion on the
15 events that happened in the Raytheon crash and use my
16 experience as a line pilot to help understand the
17 events and give my expertise on -- if -- if -- to help
18 understand what's happening in the --

19 Q. As it relates to the piloting issues, the
20 mechanics issues --

21 A. Yes.

22 Q. -- everything?

23 A. No, I'm an expert on the pilot issues. I'm
24 not a mechanic. I just do the -- the pilot issues.

25 Q. So what -- how do you characterize your

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1 expertise? What are you an expert in?

2 A. I'm an expert in aviation on the 1900, and I'm
3 a professional pilot. So I'm an expert in aviation in
4 the areas of flying an aircraft and systems on the --
5 the 1900 and general operation of the airline business.

6 Q. And the basis for your expertise in that
7 regard is the experience we just went through?

8 A. Yes.

9 Q. Is there anything else besides what we just
10 talked about?

11 A. No.

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22 Q. would you expect to know that kind of a fact
23 before you do the detailed preflight inspection
24 described in this document?

25 A. You'd have to be more specific. was the
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1 airplane written up by a flight crew member saying that
2 the control wasn't right? There's different scenarios
3 to -- for that question.

4 Q. There's different scenarios for how that
5 maintenance came to be done?

6 A. Correct.

7 Q. Okay. well, I'm not --

8 A. Is it -- well, what maintenance are you
9 talking about? You're being too vague. There's all
10 kinds of maintenance.

11 Q. That's why I narrowed it to some work done on
12 a flight control.

13 A. Okay.

14 Q. whether it's work on an aileron, trim tab, an
15 elevator, whatever it may be, if that kind of work was
16 just completed, would you as a pilot taking that
17 airplane away expect to know what kind of work had been
18 done before you do the detailed preflight inspection?

19 A. It depends. If it was written in the logbook,
20 I would know that it was done.

21 Q. Are you familiar with what the regulations
22 call for in the way of what type of maintenance events
23 need to be written up in the logbook?

24 A. You'd have to be more specific.

25 Q. I'm just asking you if you're familiar with

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1 regulations about what has to go in a logbook following
2 maintenance.

3 A. There's different maintenance procedures.
4 You're being too vague. I would have to -- you'd have
5 to be more specific on what procedure. There's a lot
6 of procedures that may or may not -- I don't know --
7 I'm not a mechanic. They have their own procedures. I
8 know if I write -- if I find a problem on the airplane,
9 the captain will put it in the logbook. I don't -- I'm
10 not a maintenance mechanic. I don't know their
11 procedures. I don't know if they do a maintenance
12 procedure if they're required by FAR's --

13 Q. That's my question.

14 A. That's their -- that's their realm.

15 Q. Okay. That's my question, as to whether that
16 is something you're familiar with or not.

17 A. I'm not an expert on -- on the maintenance
18 side of the issue.

19 Q. All right. well, let's assume that work had
20 been done on the trim tabs on the elevator of the
21 aircraft, and it comes out of maintenance.

22 A. Okay.

23 Q. what do you first look at in terms of
24 paperwork as a pilot?

25 A. was the -- was the trim tab required -- what

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1 I'm required as a pilot -- all I'm required to do is go
2 back to the latest Airworthiness Release, make sure
3 it's within the four-day period --

4 Q. What's within?

5 A. The Airworthiness Release. And look for any
6 open write-ups and make sure that they're signed off

conway.txt

7 correctly. There's numerous activities -- I mean, not
8 activities. But that's what I'm required as a pilot to
9 do.

10 Q. And you're looking at an Airworthiness Release
11 document. You go get that somewhere?

12 A. A document, no, sir. It would be in my
13 logbook.

14 Q. Well, that's a document.

15 A. Yes. It's not a separate document. It would
16 be on the logbook, yes.

17 Q. So you get the logbook that's in the aircraft?

18 A. Yes.

19 Q. And you look up what?

20 A. Well, what you want to do is you would look
21 up -- get the logbook, okay, and you would determine if
22 the airplane is airworthy by turning back to the latest
23 Airworthiness Release, right, make sure it's within the
24 required time period, and note any write-ups from that
25 period on, make sure -- if there is any -- there might

0044 1 not be any. If there is any, make sure that they're
2 documented and signed off.

3 Q. Describe first, I guess, the four-day period
4 for the timing of an Airworthiness Release. How does
5 that work?

6 A. I could look up the page, but basically what
7 it is is there's a -- they'll do an inspection on the
8 airplane -- I'm not a mechanic. I'm not -- but they do
9 an inspection on the airplane, and then they sign off
10 an Airworthiness Release saying they did an inspection.

11 Q. "They" being the mechanics?

12 A. The mechanics.

13 Q. Okay. And that has to be done every so often?

14 A. The Airworthiness Release has to be done -- I
15 believe it says every five days, which is the day it's
16 signed to midnight and then four additional days. So
17 in the book you'll see four. You'll also see five.

18 Q. And is that time period specified in this
19 manual we're looking at? Does it appear in the FAR's,
20 or does it come from somewhere else?

21 A. That is in -- I believe it's in the policy and
22 procedures manual.

23 Q. That is --

24 A. And I would have to look up the page. I have
25 it handy if you would like me to.

0045 1 Q. We'll get to that in just a moment.

2 A. Okay.

3 Q. I'm just trying to understand where that kind
4 of information would likely appear. It's not something
5 you'd find in the document we're looking at now?

6 A. I believe it's in the policy and procedures.
7 It might be in -- in the -- the Colgan -- was it -- the
8 company flight manual.

9 Q. So --

10 A. I'd have to review it.

11 Q. If you get that logbook page -- or get the
12 logbook and you look back for the last Airworthiness
13 Release, what are you looking for, that -- that there's
14 signatures of the mechanics in there?

15 A. You would look at the -- in the airworthiness
16 box, right, and I could review it; but I believe it
17 would be -- definitely have a signature. I believe it

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6 example, this one is 08-23-03, which would tell me that
7 it's August 23rd, '03.

8 Q. And that's the first page of Exhibit 114 --
9 113 or 114?

10 A. 14.

11 Q. 14?

12 A. Correct. Then the next page of the logbook
13 that's in sequence -- so you look at the number at the
14 bottom telling me it's the next page so there shouldn't
15 be any missing data, right, is 8-24-03. So it's -- I
16 believe that -- that this is the flying for the 23rd.

17 Q. First page?

18 A. The first page.

19 Q. And that should be all the activity for the
20 23rd, right?

21 A. That's not necessarily true.

22 Q. Okay.

23 A. There might -- there might have been a full
24 page from the previous day -- I mean, from the same
25 day; but if they filled up all the boxes, you would

0124 move on to another page.

1 Q. And that would be -- that would happen if you
2 had an awful lot of flights in one day?

3 A. Correct. But if -- if -- or, for example, if
4 all the flights -- yeah. If the boxes were filled or
5 someone messed up on the log page and they -- they
6 signed it off -- entered an error or something or it
7 got ripped, you know, they'd flip the page and start a
8 new one. So I don't know for a fact that this is
9 everything on the 23rd, but this is what I believe to
10 be the 23rd. There's seven flights on the 23rd.

11 Q. Which would seem like a full day?

12 A. You'd be surprised how much these airplanes
13 fly. I can't specify if that's a full day.

14 Q. All right. So the third page of this
15 document, is that the logbook from the day of the
16 accident?

17 A. I'm sorry. Say again.

18 Q. The third page of this document.

19 A. Okay.

20 Q. Is that the logbook page from the day of the
21 accident?

22 A. I believe it is, yes.

23 Q. Now, you mentioned earlier that this might not
24 be the actual -- or these might not be the actual
25

0125 logbook pages from the aircraft itself but might come
1 from somewhere else. What do you mean by that?

2 A. Well, I mean, since the airplane crashed into
3 the Atlantic, right, due to Raytheon, I might add, I
4 think those were destroyed. But what happens when you
5 have a logbook is there's carbon copies of this. I'm
6 not sure about the Colgan manual; but there's usually
7 two or three, like a white page, a yellow page, or a
8 red page.

9 Q. And they go different directions for different
10 purposes usually?

11 A. Well, if maintenance -- usually if a
12 maintenance was performed, they would tear out a copy
13 and they would keep it on file, I believe. I'm not
14 quite sure what they do with -- with their files on
15 Colgan. It might have -- I'm not quite sure what they
16

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9 And so we know that he did that.

10 As a pilot's standpoint, this plane is
11 completely airworthy to go. He went back to the latest
12 Airworthiness Release. He looked at the discrepancies
13 from the release on. The corrective action has been
14 taken. This airplane is airworthy.

15 Q. My question was when -- looking back to the
16 last Airworthiness Release on the 24th and then seeing
17 on this page, the logbook page 35322, that there had,
18 in fact, been maintenance activity --

19 A. Uh-huh.

20 Q. -- and, in fact, maintenance on a flight
21 control, wouldn't you as a pilot expect to see the
22 Airworthiness Release signed after that kind of an
23 event?

24 MS. SCHIAVO: Objection.

25 Go ahead and answer.

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1 A. That is not what the book tells me to look
2 for.

3 Q. (By Mr. Jones) That's a different question.
4 My question wasn't what the book tells you to look for.
5 I'm asking what you as a prudent pilot would expect to
6 see following an event like that.

7 A. Well, actually the discrepancy is the flight
8 data recorder needs downloading. That's what they
9 place on MEL. It's -- they're not MEL'ing the elevator
10 trim cable. So the discrepancy is you have a broken
11 flight data recorder, right? The corrective action is
12 place the -- the flight data recorder on MEL. And that
13 is a normal logbook page. I mean, this is typical.
14 The maintenance guy goes, "Flight data recorder is
15 broken. I'm fixing it by MEL'ing it." MEL it sends
16 you on your way.

17 Q. And you in your experience wouldn't expect to
18 see that Airworthiness Release signed following those
19 two entries?

20 MS. SCHIAVO: Objection for the record.

21 A. I'm not a mechanic, and I don't know the
22 requirements -- the requirement I know is that I look
23 back five days. The only thing that I know is --
24 I don't know maintenance forms, when they were required
25 to do an Airworthiness Release. All I know is they're

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1 required every five days to do it, period.

2 Q. (By Mr. Jones) I'm asking what your
3 expectation is as a pilot in terms of whether there
4 would be one.

5 A. I just told you.

6 Q. You wouldn't expect one way or the other
7 whether there would be one --

8 MS. SCHIAVO: Objection. Sorry. I didn't
9 mean to interrupt.

10 Go ahead.

11 A. I expect as a pilot to be there within five
12 days. That's my answer.

13 Q. (By Mr. Jones) Now, you would agree with me
14 in reading this logbook page from the date of the
15 accident that these pilots would have been informed
16 that the elevator trim cable, forward most one, had
17 been replaced?

18 A. Can you read the question one more time?

19 Q. Would you agree with me that the pilots in

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14 where I read it. So I am aware that there was a event.

15 Q. Have you ever had those happen to you as a
16 pilot?

17 A. I have. One time on my single-engine
18 commercial rating and that was years ago. It was --
19 oh, gosh. Let's see here. I'm not quite -- I got two
20 commercial ratings. So I'm trying to think. 19 -- I'm
21 not quite sure, but I think it was 1991. It was -- it
22 was a long time ago.

23 Q. When that happens, what do you do to remedy
24 it?

25 A. Usually what you do is you go back with your

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1 instructor, get some more training on whatever part you
2 failed or was -- they marked unsatisfactory, and then
3 you go back with an examiner, he checks you out again,
4 and you get signed off and get your ticket.

5 Q. And you ordinarily make it the second time?

6 A. It depends. I've had -- it depends on the
7 circumstance.

8 Q. Did you when that happened to you?

9 A. Yes, sir.

10 Q. Now, you're aware that one of these pilots
11 when he went back for their second check failed again?

12 A. I was aware of that.

13 Q. Now, did the -- having learned that these
14 pilots had those failures in recent check rides, did
15 that impact at all your analysis of their conduct in
16 this case?

17 A. No. I have many friends that have failed
18 multiple check rides who are fantastic airline pilots,
19 in my opinion. I feel very comfortable putting my
20 family, friends on those airplanes. And having an
21 unsatisfactory event by no means makes them an
22 incompetent pilot. These pilots are obviously
23 qualified on the Beech 1900. They passed their
24 training, and they successfully fly the line on a daily
25 basis. Unfortunately they were given an airplane that

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1 was -- that couldn't fly.

2 Q. Now --

3 A. Due to Raytheon.

4 Q. Having spent hundreds of hours each in a
5 1900D, you would expect both of these pilots to
6 understand how the trim wheel works on a 1900D,
7 correct?

8 MS. SCHIAVO: Objection for the record.
9 Go ahead.

10 A. You have to repeat that. I believe they do
11 understand the trim wheel.

12 Q. (By Mr. Jones) That's what I'm trying to
13 establish. You've said that they each have hundreds of
14 hours -- had hundreds of hours in the 1900. And given
15 that, would you expect them to understand how the trim
16 wheel on a 1900 works, right?

17 A. I believe that they would know how to fly the
18 airplane correctly and they would know how to operate
19 the trim wheel in the 1900.

20 Q. And how to read the markings on the scale nose
21 up, nose down, forward and aft, CG, those kinds of
22 things?

23 A. Well, if you actually look at them, trim
24 wheel, they're -- I don't believe I've ever seen a nose

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10 trying to climb. Let me think about what it's doing,
 11 when you're flying the airplane. You don't think about
 12 that. Every control input, you don't think, hey,
 13 what's it doing out there on the tail or the wing?

14 Q. So what you're referring to is the words on
 15 the pedestal itself that say "elevator trim." Reading
 16 top to bottom at the front end, it says "down."

17 A. Uh-huh.

18 Q. At the back end it says "up."

19 A. Uh-huh.

20 Q. The up and down in that regard are consistent
 21 with if you roll it forward, you're going down. If
 22 you're rolling it back, you're rolling it up, right?
 23 Nose up, nose down?

24 A. This has to -- this is referring to what the
 25 elevator is doing.

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1 Q. Now, why do you take it to say that?

2 A. Because that's what it's saying. It's
 3 trimming the elevator. Elevator trim, right?

4 Q. Oh, you read that --

5 A. Isn't the tab moving the elevator?

6 Q. You read that to mean this is the way the tab
 7 is moving, up and down?

8 A. No.

9 Q. You read it to mean this is the way the
 10 elevator is going to move, up and down?

11 A. Yeah. It just so happens that the airplane --
 12 the elevator trim -- I mean, that's -- it's extremely
 13 confusing, but the tab would actually -- goes in the
 14 opposite direction but which would move the elevator.
 15 So -- I mean, if you look over on this side, it's
 16 saying down and up. Right? Every person that I have
 17 looked at -- that I've talked to that's looked at this
 18 diagram are extremely confused. Every other airplane
 19 in the industry, it's very, very simple. You just
 20 write nose up, nose down. And that's it. You might
 21 put a CG mark -- you might put a -- an index marking so
 22 you can set your trim. Obviously there's going to be a
 23 marking on there. But it's just -- you know, I know
 24 the pilots know how to operate the airplane, obviously.
 25 They've flown it for hundreds of hours. It just -- I

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1 wanted to note that it is an extremely confusing --

2 Q. So you're not rendering an opinion in this
 3 case that the trim wheel markings are confusing and
 4 that caused this accident, are you?

5 A. I don't know what ramifications -- I believe
 6 that the pilots know how to operate the trim wheel in
 7 their checks. I don't know if anybody else misread it.
 8 But I'm just stating my opinion on this trim is --

9 Q. What I'm meaning to ask is to determine
 10 whether your plan is to come to trial in this case and
 11 provide an opinion that this wheel is confusingly
 12 marked and that fact contributed to this accident. If
 13 that's not what your opinion is, we don't need to talk
 14 about this anymore. But if it is, we need to go ahead
 15 and explore it.

16 A. I don't believe the markings are the cause of
 17 this crash. I believe Raytheon's diagram is the cause
 18 of this crash.

19 Q. In the maintenance manual?

20 A. Yes. And other things. But -- from Raytheon.

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21 But, yes. So, no, the wheel -- the pilots didn't read
 22 the wheel incorrectly. If you want to move on, that's
 23 fine. I just wanted to teach you a little bit about
 24 the wheel.

25 Q. Have you done any studies to -- to show this

0184

1 confusing marking, as you call it, to -- a statistical
 2 sampling of pilots to see if they're confused by it?

3 A. Have I done any statistical --

4 Q. Yes.

5 A. No. It's just my opinion, what I observed.

6 Q. All right. Let's move on, then. The next

7 paragraph goes into the issue of this was a
 8 repositioning flight to Albany. And the crew was given
 9 the opportunity to fly this flight upon the completion
 10 of their previously assigned scheduled duties. What I
 11 understand you to be saying there is they had completed
 12 their duty day, their scheduled flights, and they were
 13 headed home and they were called back. Is that your
 14 understanding?

15 A. My understanding from the NTSB report is that
 16 they were called back to do another flight, yes.

17 Q. And they had not at this point in time
 18 exceeded the eight hours flight time, 14 hours duty
 19 time as we've talked about before, right?

20 A. Correct.

21 Q. Now, their plan was to fly there and fly back,
 22 wasn't it?

23 A. I'm not quite sure what their plan was.

24 Q. If their plan was to fly there and fly back.

25 A. I know their plan was to fly there and live.

0185

1 Q. If their plan was to fly there and fly back,
 2 the time it would have taken to make that flight, do a
 3 regular turnaround and get back, would have put them
 4 outside of the time limits for duty in flight, wouldn't
 5 it?

6 MS. SCHIAVO: Object for the record.

7 Go ahead.

8 A. Okay. Who are you referring about? You have
 9 to be more specific.

10 Q. (By Mr. Jones) Both of them.

11 A. Both of them? Huh. I'd have to review that.

12 Q. Well, I guess that's my question. Have you
 13 studied that issue?

14 A. It's my understanding that they were legal at
 15 the time of the crash and the legality isn't an issue
 16 in this case. The issue in this case is these
 17 people -- these pilots died due to a -- obviously a
 18 mis-rigging in the -- in the trim due to the manual.
 19 It's -- it's really -- I didn't dwell too much time on
 20 that because it's obviously skirting the issue of why
 21 these people ended up in the Atlantic Ocean.

22 Q. Well, my question is much more simple. It's:
 23 Did you study the issue of whether had these pilots
 24 completed the out and back they were planning on to
 25 Albany, would have put them outside of their duty and

0186

1 time -- flight limits for the day?

2 MS. SCHIAVO: Object for the record.

3 Go ahead.

4 A. Let's see here. Looking at -- I'm looking at
 5 Scott Knabe's schedule here. And the -- it shows, I

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0225

1 was in trail with the elevator, as the check calls for?

2 A. The -- when they do their walk around
3 inspection, they would look that the tail was -- that
4 the trim tab was flush and it appeared -- and it looked
5 normal. And that's what -- if it looks normal when you
6 walk around this airplane. You can't tell -- I
7 personally cannot tell between 3 and 1-1/2. It's
8 just -- it's a check that really you can't tell, you
9 know, unless you crawl up there on a ladder or
10 something or -- you're not going to be able to see it.
11 Or a lift like we did in Raytheon in Wichita.
12 Because -- it's just something that we preflight
13 airplanes and -- in all kinds of conditions, nighttime,
14 snowstorms, rain, sun in your face. It really is
15 something -- and you can't even tell in the hangar.
16 How are you going to tell out there in the -- blowing
17 snow? So it really -- to me, I don't think any line
18 pilots ever did that, no.

19 Q. So we don't have any reason to believe that
20 these pilots undertook that kind of a check at all,
21 No. 1, because it's not in the Colgan manual; and,
22 No. 2, as you explained, you don't think it's effective
23 anyway?

24 MS. SCHIAVO: Objection for the record.
25 Go ahead.

0226

1 A. I believe that the Colgan pilots -- they
2 viewed the tail section according to what they have in
3 their manual, and that's what they did.

4 Q. (By Mr. Jones) What's your basis for
5 believing that?

6 A. Because they did a preflight.

7 Q. Any other basis?

8 A. They followed their manual because they're
9 professional pilots. They said they did a preflight
10 start on the CVR, and I'm -- I'm going to have to, you
11 know, believe that they -- that it appeared normal from
12 the ground.

13 Q. So what does the Colgan preflight detailed
14 checklist call for in inspecting the trim tab on the
15 elevator if it doesn't include this 1-1/2 units nose up
16 approach that Raytheon's manual has?

17 A. If it does -- I'm sorry. Say that again.

18 Q. In other words, what does Colgan's manual tell
19 these guys to look at in the way of the trim tab?

20 A. It says that -- I need to look at it; but I
21 believe it says that it's in the neutral position, I
22 believe, the wording was. I could look it up for you.

23 Q. Does it give the pilots any direction on where
24 they should set the trim before going to look at that?

25 A. Just states in the neutral position, I

0227

1 believe.

2 Q. Which you would take to mean zero?

3 A. What I take to mean is -- would be 3 is the
4 normal procedure that they probably used. It
5 doesn't -- that's -- the normal line pilot would do.

6 Q. Set it to 3?

7 A. That's the normal -- the operation I used,
8 that's what we would do, would be at 3; and you walk
9 around the airplane and the -- from the ground it
10 appears to be flush or neutral or whatever -- I can

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11 look it up for you. I forgot the word they used but --
 12 Q. Now, you're aware that this aircraft when it
 13 was taken from maintenance had its elevator trim rigged
 14 backwards so that when you dialed in nose down you got
 15 nose up and vice versa, right?

16 A. Repeat it one more time so I get it right.

17 Q. You're aware of how this was mis-rigged,
 18 right?

19 A. Yes, it was mis-rigged due to the Raytheon
 20 manual. I agree.

21 Q. And it was mis-rigged such that it operated in
 22 reverse, correct?

23 A. Yeah. That it operated in reverse using the
 24 manual wheel or -- or the electric trim? You'd have
 25 to --

0228

1 Q. The manual wheel.

2 A. -- be more specific.

3 Q. The manual.

4 A. Using the manual wheel, the tab did go in
 5 reverse, correct.

6 Q. The wrong direction?

7 A. The wrong direction.

8 Q. So if you roll the wheel forward to get nose
 9 down, you're actually in reality going to be getting
 10 nose up trim because of the way this was mis-rigged,
 11 right?

12 A. If you're -- if you're trying to fly the
 13 airplane and you roll the nose down, the flight -- the
 14 nose of the airplane down, the airplane would do the
 15 opposite. It would pitch up.

16 Q. And vice versa?

17 A. And vice versa, which they did in the crash,
 18 unfortunately.

19 Q. So if -- well, first of all, are you familiar
 20 with whether one unit of nose up or nose down
 21 correlates to any given degree of deflection of the
 22 tab?

23 A. I have read the degree. I've read different
 24 degrees. I believe one unit is approximately 1.4
 25 degrees. I've read 1.5. It's in that ballpark.

0229

1 Q. All right. So if these pilots had set the
 2 trim for 3 units nose up and then done their walk
 3 around and checked to see if it -- if the tab was in
 4 trail, the way this was mis-rigged, it would have
 5 actually been 3 degrees the other way from neutral,
 6 right? Three units -- excuse me. You used the word
 7 "units." Three units nose down instead of 3 units nose
 8 up, right?

9 A. Well, if 1-1/2 degrees in a normal position is
 10 flush, according to your manual, right --

11 Q. Right.

12 A. -- it would be off 1-1/2 units. Does that
 13 sound right?

14 Q. If you set it one and a half units nose up.
 15 But as you described, you'd have set it -- you expected
 16 that they say to 3 units nose up, right?

17 A. What I expected is under normal -- like I
 18 said, I'm speculating on what I think they had it at.
 19 I cannot tell. I mean, the manual says it's neutral.
 20 I mean, they might have put it neutral. I don't --
 21 I don't know. I wasn't there. But what I believe is